WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Tuesday, June 01, 2004

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L50	L39 and (fluid with rout$4)	1
☐	L49	L43 and (fluid with rout$4)	1
☐	L48	L43 and ((dynamic$4 or electric$4) with field with gradient with focus$4)	3
		DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L47	6504368	4
☐	L46	L39 and (vargas)	1
☐	L45	L44 and ((fused adj silica) or PEEK)	6
☐	L44	L43 and (fluid$5 with (rout$4 or control$4 or direct$4 or separat$4 or divert$5 or select$6))	6
☐	L43	L42 and (detect$6 or reception or receiv$5 or sens$5)	7
☐	L42	L41 and (site or location or chamber or tube or rout$4 or fluid$6)	7
☐	L41	L39 and (((sample or analyte) with (hold$6 or held)) or void)	7
☐	L40	L39 and ((fused adj silica) or PEEK)	12
☐	L39	L37 and ((microcoil or micro-coil or (micro adj coil)) with (helical$3 or spiral$3 or solenoid$4))	29
☐	L38	L37	173184
☐	L37	((magnetic adj resonance) or MRI or NMR)	173184
☐	L36	L35 and (microcoil with (helical$3 or spiral$3 or solenoid$4))	2
☐	L35	fetzner	200
☐	L34	L33 and (memory)	1
☐	L33	L32 and (photo$9)	2
☐	L32	L30 and (pump$4)	2
☐	L31	L30 and (pump)	1
☐	L30	L29 and (sound or sonic$8 or acoustic$6 or IR or UV)	2
☐	L29	L27 and (heat$4)	2
☐	L28	L27 and (gradient)	1
☐	L27	L26 and ((capillary adj electrophoresis) or CE)	2
☐	L26	L25 and (liquid adj chromatography)	2
☐	L25	L24 and (extraction with chamber)	2
☐	L24	L23 and (microcoil with planar)	2
☐	L23	L22 and (microcoil with (helical, pr spiral, or solenoid$4))	2

☐	L22	L21 and (optimiz$9)	2
☐	L21	L20 and (dimension$6 or spectra or spectrum or spectral)	2
☐	L20	L18 and ((fused adj silica) or PEEK)	2
☐	L19	L18 and ((fused adj ailica) or PEEK)	1
☐	L18	L17 and (sample with size)	2
☐	L17	L16 and ((one or "1") with dimension$6)	4
☐	L16	L14 and (data with processing)	4
☐	L15	L14 and (controller)	2
☐	L14	6194900	10
☐	L13	L11 not L12	5
☐	L12	L11 and (coil or probe)	11
☐	L11	L9 and (fused with silica)	16
☐	L10	L9 and (microcoil or micro-coil or "micro coil")	0
☐	L9	L8 and (PEEK or polyetheretherketone or poly-ether-ether-ketone)	119
☐	L8	L1 and (polytetrafluoroethylene or poly-tetra-fluoro-ethylene)	3044
☐	L7	L3 and (polytetrafluoroethylene or poly-tetra-fluoro-ethylene)	0
☐	L6	L4 and (polytetrofluoroethylene or poly-tetro-fluoro-ethylene)	1
☐	L5	L4 and (polytetrafluoroethylene or poly-tetra-fluoro-ethylene)	0
☐	L4	L3 and (fused with silica)	3
☐	L3	L2 and (microcoil or micro-coil or "micro coil")	6
☐	L2	L1 and (PEEK or polyetheretherketone or poly-ether-ether-ketone)	527
☐	L1	((magnetic adj resonance) or MRI or NMR)	173184

END OF SEARCH HISTORY

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20020149369 A1

Using default format because multiple data bases are involved.

L4: Entry 1 of 3 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020149369
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020149369 A1

TITLE: Microfluidic device with multiple microcoil NMR detectors

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	
Strand, David	Sherborn	MA	US	
Sweedler, Jonathan	Urbana	IL	US	

US-CL-CURRENT: 324/321; 324/306, 435/4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 2. Document ID: US 6061587 A

L4: Entry 2 of 3 File: USPT May 9, 2000

US-PAT-NO: 6061587
DOCUMENT-IDENTIFIER: US 6061587 A

TITLE: Method and apparatus for use with MR imaging

DATE-ISSUED: May 9, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kucharczyk; John	Edina	MN		
Moseley; Michael E.	Redwood City	CA		

US-CL-CURRENT: 600/411; 600/431, 600/432, 600/433, 604/151, 604/152, 604/153, 604/154, 604/155, 604/21, 604/93.01

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 3. Document ID: US 6026316 A

L4: Entry 3 of 3 File: USPT Feb 15, 2000

US-PAT-NO: 6026316
DOCUMENT-IDENTIFIER: US 6026316 A
**** See image for Certificate of Correction ****

TITLE: Method and apparatus for use with MR imaging

DATE-ISSUED: February 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kucharczyk; John	Edina	MN		
Moseley; Michael E.	Redwood City	CA		

US-CL-CURRENT: 600/420; 324/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
FUSED	231920
FUSEDS	0
SILICA	436960
SILICAS	16978
(3 AND (FUSED WITH SILICA)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	3
(L3 AND (FUSED WITH SILICA)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	3

Display Format: - Change Format

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Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 7 of 7 returned.

1. Document ID: US 20020149369 A1

Using default format because multiple data bases are involved.

L43: Entry 1 of 7 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020149369
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020149369 A1

TITLE: Microfluidic device with multiple microcoil NMR detectors

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	
Strand, David	Sherborn	MA	US	
Sweedler, Jonathan	Urbana	IL	US	

US-CL-CURRENT: 324/321; 324/306, 435/4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

2. Document ID: US 20020130661 A1

L43: Entry 2 of 7 File: PGPB Sep 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020130661
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020130661 A1

TITLE: Nuclear magnetic resonance analysis of multiple samples

PUBLICATION-DATE: September 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Raftery, Daniel	Lafayette	IN	US	
Fisher, George G.	Oak Harbor	WA	US	

Petucci, Christopher J.	Memphis	TN	US
McNamara, Ernesto	Alexandria	VA	US

US-CL-CURRENT: 324/318; 324/309, 324/321, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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3. Document ID: US 20020105327 A1

L43: Entry 3 of 7 File: PGPB Aug 8, 2002

PGPUB-DOCUMENT-NUMBER: 20020105327
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020105327 A1

TITLE: Steep solvent gradient NMR analysis method

PUBLICATION-DATE: August 8, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	

US-CL-CURRENT: 324/306; 324/321

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

---

4. Document ID: US 6700379 B2

L43: Entry 4 of 7 File: USPT Mar 2, 2004

US-PAT-NO: 6700379
DOCUMENT-IDENTIFIER: US 6700379 B2

TITLE: Steep solvent gradient NMR analysis method

DATE-ISSUED: March 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Peck; Tim L.	Mahomet	IL		
Olson; Dean	Champaign	IL		
Norcross; Jim	Champaign	IL		

US-CL-CURRENT: 324/321; 324/306

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

5. Document ID: US 6696838 B2

L43: Entry 5 of 7 File: USPT Feb 24, 2004

US-PAT-NO: 6696838
DOCUMENT-IDENTIFIER: US 6696838 B2

TITLE: Nuclear magnetic resonance analysis of multiple samples

DATE-ISSUED: February 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Raftery; Daniel	Lafayette	IN		
Fisher; George G.	Oak Harbor	WA		
McNamara; Ernesto	Alexandria	VA		

US-CL-CURRENT: 324/321; 324/310, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

6. Document ID: US 6194900 B1

L43: Entry 6 of 7 File: USPT Feb 27, 2001

US-PAT-NO: 6194900
DOCUMENT-IDENTIFIER: US 6194900 B1

TITLE: Integrated miniaturized device for processing and NMR detection of liquid phase samples

DATE-ISSUED: February 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Freeman; Dominique M.	Pescadero	CA		
Swedberg; Sally A.	Palo Alto	CA		

US-CL-CURRENT: 324/321; 324/318

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

7. Document ID: US 6097188 A

L43: Entry 7 of 7 File: USPT Aug 1, 2000

US-PAT-NO: 6097188
DOCUMENT-IDENTIFIER: US 6097188 A

TITLE: Microcoil based micro-NMR spectrometer and method

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sweedler; Jonathan V.	Urbana	IL		
Magin; Richard L.	Urbana	IL		
Peck; Timothy L.	Champaign	IL		
Webb; Andrew G.	Urbana	IL		

US-CL-CURRENT: 324/321; 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
RECEPTION	405653
RECEPTIONS	2969
DETECT$6	0
DETECT	1169555
DETECTA	16
DETECTAB	1
DETECTABALE	9
DETECTABCLE	1
DETECTABE	9
DETECTABED	1
DETECTABEL	10
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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 20020149369 A1

Using default format because multiple data bases are involved.

L45: Entry 1 of 6 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020149369
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020149369 A1

TITLE: Microfluidic device with multiple microcoil NMR detectors

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	
Strand, David	Sherborn	MA	US	
Sweedler, Jonathan	Urbana	IL	US	

US-CL-CURRENT: 324/321; 324/306, 435/4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 2. Document ID: US 20020130661 A1

L45: Entry 2 of 6 File: PGPB Sep 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020130661
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020130661 A1

TITLE: Nuclear magnetic resonance analysis of multiple samples

PUBLICATION-DATE: September 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Raftery, Daniel	Lafayette	IN	US	
Fisher, George G.	Oak Harbor	WA	US	

Petucci, Christopher J.	Memphis	TN	US
McNamara, Ernesto	Alexandria	VA	US

US-CL-CURRENT: 324/318; 324/309, 324/321, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 3. Document ID: US 20020105327 A1

L45: Entry 3 of 6 File: PGPB Aug 8, 2002

PGPUB-DOCUMENT-NUMBER: 20020105327
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020105327 A1

TITLE: Steep solvent gradient NMR analysis method

PUBLICATION-DATE: August 8, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	

US-CL-CURRENT: 324/306; 324/321

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 4. Document ID: US 6700379 B2

L45: Entry 4 of 6 File: USPT Mar 2, 2004

US-PAT-NO: 6700379
DOCUMENT-IDENTIFIER: US 6700379 B2

TITLE: Steep solvent gradient NMR analysis method

DATE-ISSUED: March 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Peck; Tim L.	Mahomet	IL		
Olson; Dean	Champaign	IL		
Norcross; Jim	Champaign	IL		

US-CL-CURRENT: 324/321; 324/306

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 5. Document ID: US 6696838 B2

L45: Entry 5 of 6 File: USPT Feb 24, 2004

US-PAT-NO: 6696838
DOCUMENT-IDENTIFIER: US 6696838 B2

TITLE: Nuclear magnetic resonance analysis of multiple samples

DATE-ISSUED: February 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Raftery; Daniel	Lafayette	IN		
Fisher; George G.	Oak Harbor	WA		
McNamara; Ernesto	Alexandria	VA		

US-CL-CURRENT: 324/321; 324/310, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 6. Document ID: US 6194900 B1

L45: Entry 6 of 6 File: USPT Feb 27, 2001

US-PAT-NO: 6194900
DOCUMENT-IDENTIFIER: US 6194900 B1

TITLE: Integrated miniaturized device for processing and NMR detection of liquid phase samples

DATE-ISSUED: February 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Freeman; Dominique M.	Pescadero	CA		
Swedberg; Sally A.	Palo Alto	CA		

US-CL-CURRENT: 324/321; 324/318

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
FUSED	231920

FUSEDS	0
SILICA	436960
SILICAS	16978
PEEK	9980
PEEKS	322
(44 AND (PEEK OR (FUSED ADJ SILICA))).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	6
(L44 AND ((FUSED ADJ SILICA) OR PEEK)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	6

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 6696838 B2

Using default format because multiple data bases are involved.

L47: Entry 1 of 4 File: USPT Feb 24, 2004

US-PAT-NO: 6696838
DOCUMENT-IDENTIFIER: US 6696838 B2

TITLE: Nuclear magnetic resonance analysis of multiple samples

DATE-ISSUED: February 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Raftery; Daniel	Lafayette	IN		
Fisher; George G.	Oak Harbor	WA		
McNamara; Ernesto	Alexandria	VA		

US-CL-CURRENT: 324/321; 324/310, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 2. Document ID: US 6504368 B2

L47: Entry 2 of 4 File: USPT Jan 7, 2003

US-PAT-NO: 6504368
DOCUMENT-IDENTIFIER: US 6504368 B2

TITLE: Spectroscopic measurement method using NMR

DATE-ISSUED: January 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ross; Alfred	Lorrach			DE
Schlotterbeck; Gotz	Efringen-Kirchen			DE
Senn; Hans	Windisch			CH

US-CL-CURRENT: 324/307; 324/308, 324/309, 324/318

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 3. Document ID: JP 2004501350 W, WO 200179874 A1, EP 1158307 A1, US 20010045831 A1, AU 200173981 A, EP 1275011 A1, US 6504368 B2

L47: Entry 3 of 4 File: DWPI Jan 15, 2004

DERWENT-ACC-NO: 2002-082759
DERWENT-WEEK: 200410

TITLE: NMR spectrometer throughput increase using simultaneous determination of NMR spectra of samples arranged in a measuring site and varying the magnetic fields which reduces the sample volume required

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 4. Document ID: DE 4100915 A, KR 189041 B1, WO 9213270 A1, AU 9190514 A, DE 4100915 C2, EP 567464 A1, JP 06504368 W, US 5351029 A, EP 567464 B1, DE 59108090 G, ES 2091454 T3, JP 3053865 B2

L47: Entry 4 of 4 File: DWPI Jul 16, 1992

DERWENT-ACC-NO: 1992-242890
DERWENT-WEEK: 200055

TITLE: Carbon mon:oxide sensor used in gas mixt. contg. oxygen@ - comprises metal oxide doped with different metal oxide and catalytic metal oxide with high sensitivity

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
"6504368"	4
6504368S	0
"6504368".USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	4
(6504368).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	4

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Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 3 of 3 returned.

1. Document ID: US 20020149369 A1

Using default format because multiple data bases are involved.

L48: Entry 1 of 3 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020149369
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020149369 A1

TITLE: Microfluidic device with multiple microcoil NMR detectors

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	
Strand, David	Sherborn	MA	US	
Sweedler, Jonathan	Urbana	IL	US	

US-CL-CURRENT: 324/321; 324/306, 435/4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

2. Document ID: US 20020105327 A1

L48: Entry 2 of 3 File: PGPB Aug 8, 2002

PGPUB-DOCUMENT-NUMBER: 20020105327
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020105327 A1

TITLE: Steep solvent gradient NMR analysis method

PUBLICATION-DATE: August 8, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	

Norcross, Jim Champaign IL US

US-CL-CURRENT: 324/306; 324/321

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

3. Document ID: US 6700379 B2

L48: Entry 3 of 3 File: USPT Mar 2, 2004

US-PAT-NO: 6700379
DOCUMENT-IDENTIFIER: US 6700379 B2

TITLE: Steep solvent gradient NMR analysis method

DATE-ISSUED: March 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Peck; Tim L.	Mahomet	IL		
Olson; Dean	Champaign	IL		
Norcross; Jim	Champaign	IL		

US-CL-CURRENT: 324/321; 324/306

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
FIELD	3201991
FIELDS	453756
GRADIENT	246992
GRADIENTS	60840
DYNAMIC$4	0
DYNAMIC	468225
DYNAMICA	33
DYNAMICAAY	2
DYNAMICABLY	1
DYNAMICABY	12
DYNAMICADY	6
(L43 AND ((DYNAMIC$4 OR ELECTRIC$4) WITH FIELD WITH GRADIENT WITH FOCUS$4)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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First Hit

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L48: Entry 2 of 3 File: PGPB Aug 8, 2002

PGPUB-DOCUMENT-NUMBER: 20020105327
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020105327 A1

TITLE: Steep solvent gradient NMR analysis method

PUBLICATION-DATE: August 8, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Protasis Corporation	Marborough	MA	US	02

APPL-NO: 10/ 006503 [PALM]
DATE FILED: December 3, 2001

RELATED-US-APPL-DATA:
Application is a non-provisional-of-provisional application 60/250705, filed December 1, 2000,

INT-CL: [07] G01 V 3/00

US-CL-PUBLISHED: 324/306; 324/321
US-CL-CURRENT: 324/306; 324/321

ABSTRACT:

An NMR method of analyzing an analyte comprises feeding an analyte sample fluid to an NMR flow cell. The NMR flow cell comprises an RF microcoil operably associated with an enlarged containment region. The mobile phase of the analyte sample flowing through the NMR flow cell has a solvent gradient greater than 10% per minute. The analyte sample fluid can be fed to the NMR flow cell from an analyte extraction chamber, e.g., operative to perform liquid chromatography, capillary electrophoresis, or the like, especially a capillary-based analyte extraction chamber integrated in an NMR probe with the NMR flow cell. A sample volume is held in the NMR flow cell for equilibration less than 1 hour, preferably less than 30 minutes prior to actuating NMR analysis of the observe volume in the microcoil.

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 20020149369 A1

Using default format because multiple data bases are involved.

L50: Entry 1 of 1 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020149369
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020149369 A1

TITLE: Microfluidic device with multiple microcoil NMR detectors

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Peck, Tim L.	Mahomet	IL	US	
Olson, Dean	Champaign	IL	US	
Norcross, Jim	Champaign	IL	US	
Strand, David	Sherborn	MA	US	
Sweedler, Jonathan	Urbana	IL	US	

US-CL-CURRENT: 324/321; 324/306, 435/4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
FLUID	1663992
FLUIDS	351052
ROUT$4	0
ROUT	5226
ROUTA	32
ROUTAB	1
ROUTABLE	1038
ROUTABLY	12

ROUTACT	3
ROUTACTS	1
ROUTAC4	1
(L39 AND (FLUID WITH ROUT$4)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1

There are more results than shown above. Click here to view the entire set.

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Previous Page Next Page Go to Doc#

FILE 'INPADOC, WPIX, HCAPLUS, JAPIO' ENTERED AT 14:18:50 ON 01 JUN 2004
E US2000-0250874/PRN,AP
L1 5 S (US2000-250874P/PRN OR US2000-250874P/AP)

FILE 'DPCI' ENTERED AT 14:20:03 ON 01 JUN 2004
E US2000-0250874/PRN,AP
E WO 2002056049/PN

NPC STIC Search
June 1st 2004
See attached Search History Databases
9 Records TAF

FILE 'SCISEARCH' ENTERED AT 14:36:58 ON 01 JUN 2004
E LI Y, 1999, V71/RE
L2 19 S "LI Y, 1999, V71, P4815, ANAL CHEM"/RE
L3 0 S L2 AND (PY=1999 OR PY=20000)
L4 1 S L2 AND (PY=1999 OR PY=2000)

FILE 'INPADOC, WPIX, HCAPLUS, JAPIO' ENTERED AT 14:40:52 ON 01 JUN 2004
L5 162 S PECK?/AU,IN AND (REFOCUS? OR FOCUS?)
L6 1 S L5 AND DYNAMIC?
L7 2 S US6696838/PN

FILE 'HCAPLUS' ENTERED AT 14:44:32 ON 01 JUN 2004
L8 3935 S (FOCUS####### OR REFOCUS#######)(3A)(ELECTR
IC### OR FIELD OR DYNAMIC#########)
L9 38890 S MICROFLUID###### OR MICROCOIL##### OR
MICROPROB###### OR MICROCOIL##### OR MICRO###(2A)(COIL OR PROBE OR COIL OR FLUID###)
L10 28009 S (MULTI OR MULTIPLE OR SEVERAL)(3A)(PATH####
OR CHANNEL### OR CONDUIT) OR MULTICHANNEL? OR MULTIPATH? OR MULTICONDUIT?
L11 0 S L8 AND L9 AND L10
L12 27 S L8 AND L9
L13 21 S L8 AND L10
L14 1227 S (REFOCUS? OR FOCUS?) AND L9
L15 14 S L14 AND L10
L16 18 S ((L12 OR L13) OR L15) AND (ROUT###### OR
SWITCH##### OR DIRECT###### OR MICROROUT? OR MICROSWITCH? OR MICRODIRECT?)
L17 10 S L16 AND SAMPL########
L18 0 S L16 AND (NMR OR MRI OR MR OR MAGNETIC RESONANCE OR NUCLEAR MAGNETIC)
L19 672 S (L8 OR L9 OR L10) AND (NMR OR MRI OR MR OR MAGNETIC RESONANCE OR NUCLEAR
MAGNETIC)
L20 52 S L19 AND DYNAMIC########
L21 233 S L19 AND MULTI#########
L22 19 S L20 AND L21
L23 81 S (L12 OR L13) OR (L15 OR L16 OR L17) OR L22
L24 7 S L23 AND P/DT
L25 21 S L23 AND (CONTROL####### OR MICROCONTROL#### ####)
L26 18 S L25 NOT L24
L27 7 S L26 NOT PY>2000
L28 6 S L24 NOT PRY>2000
L29 14 S L27 OR L28 OR L24

FILE 'HCAPLUS' ENTERED AT 14:58:23 ON 01 JUN 2004
L30 420322 S G01R033?/IC OR G01V003?/IC OR NMR OR MRI OR MAGNETIC RESONANCE
L31 552 S (L12 OR L13 OR L14 OR L15 OR L16 OR L17 OR
L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25) AND L30
L32 69 S L31 AND (FOCUS####### OR REFOCUS#######)
L33 48 S L31 AND DYNAMIC#######
L34 7 S L31 AND ELECTRIC## FIELD

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   FILE 'HCAPLUS' ENTERED AT 14:58:23 ON 01 JUN 2004
L35      137 S   L31 AND (CHANNELS OR PATHS OR PATHWAYS OR  CONDUITS)
L36        1 S  L31 AND (MICROCHANNELS OR MICROPATHS OR    MICROPATHWAYS OR MICROCONDUITS)
L37      172 S   L31 AND MULTI#########
L38        0 S  L31 AND MANIFOLD
L39       27 S   L32 AND L33
L40        3 S  L32 AND L34
L41        1 S  L33 AND L34
L42       18 S   (L32 OR L33 OR L34) AND L35
L43        1 S  (L32 OR L33 OR L34) AND L36
L44       24 S   (L32 OR L33 OR L34) AND L37
L45      259 S   L31 AND (MICRO######(2A)(COIL OR PROBE OR   FLUID#######) OR MICROCOIL? OR
MICROPROB? OR MICROFLUID?)
L46        7 S  (L39 OR L40 OR L41 OR L42 OR L43 OR L44)     AND L45
L47       13 S   L34 OR L36 OR (L40 OR L41) OR L43 OR L46


   FILE 'SCISEARCH' ENTERED AT 15:06:55 ON 01 JUN 2004
         E WU N, 1994, V66/RE
L48        3 S  ("WU N, 1994, V66, P384, ANAL CHEM"/RE OR "WU N, 1994, V66, P3894, ANAL CHEM"/RE)

   FILE 'ANABSTR' ENTERED AT 15:07:44 ON 01 JUN 2004
L49        0 S  CHARACTERISATION AND SUBSTANCES SEPARATED  AND CHROMATOGRAPHY
L50        0 S  CHARACTERI####### AND SUBSTANCES SEPARATED   AND CHROMATOGRAPHY

   FILE 'BIOSIS' ENTERED AT 15:08:20 ON 01 JUN 2004
L51        2 S  CHARACTERI####### AND SUBSTANCES SEPARATED  AND CHROMATOGRAPHY

   FILE 'HCAPLUS' ENTERED AT 15:09:00 ON 01 JUN 2004
L52      248 S   COILS(L)MICRO
L53        3 S  L52 AND MICROCHANNEL?
L54       14 S   NMR AND L52

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L55     5016 S  ("NUCLEAR MAGNETIC RESONANCE"/CT OR
         "NUCLEAR MAGNETIC RESONANCE (NMR)"/CT) OR NMR
         E MICROCOIL? OR MICROPROB? OR MICROFLUID?
L56     1067 S  MICROCOIL? OR MICROPROB? OR MICROFLUID?
L57     1641 S  MICRO COIL? OR MICRO PROB? OR MICRO FLUID?
L58     1451 S  (MULTI OR MULTIPLE OR FOUR OR FIVE OR SIX
         IR SEVEN OR EIGHT OR NINE OR TEN OR TWO OR THREE)(2W)(PATH#####
         ## OR CHANNEL###### OR CONDUIT####### OR ROUT###### OR    DIRECTION#####)
L59      377 S   L55 AND MULTI#############
L60       65 S   L55 AND DYNAMIC#########
L61      256 S   L55 AND FIELD
L62       26 S   L55 AND ELECTRIC#######
L63       46 S   L59 AND (L60 OR L61 OR L62)
L64       32 S   L55 AND (L56 OR L57 OR L58)
L65        2 S  L63 AND L64
L66       52 S   L59 AND (L60 OR L61 OR L62 OR L63 OR L64    OR L65)
L67       25 S   L66 AND PY>2000
L68       27 S   L66 NOT L67
L69       46 S   PECK?/AU
L70        3 S  L55 AND L69
L71        9 S  L68 AND (MU OR MUM OR MICRO###############)
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FILE 'ANABSTR, BIOSIS, HCAPLUS, INSPEC' ENTERED AT 15:23:36 ON 01 JUN 2004

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L72      482  S   HANER?/AU,IN OR DECHOW?/AU,IN
L73       26  S   L72 AND (MICRODIRECT? OR MICROROUT? OR
              ROUT###### OR DIRECTION##### OR SWITCH######)
L74       56  S   L72 AND (MICROCONTROL? OR CONTROL?)
L75        3  S   (L73 OR L74) AND (MR OR NMR OR MAGNETIC  RESONANCE)
L76    64884  S   FLOWTHROUGH OR FLOW THROUGH OR SAMPLE   DELIVERY
L77      605  S   L76 AND (NMR OR MR OR MAGNETIC RESONANCE)
L78       72  S   L77 AND MULTI##########
L79       15  S   L78 AND MICRO##########
```

L47 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:449152 HCAPLUS
DN 123:186477
ED Entered STN: 29 Mar 1995
TI Fast **multichannel** stabilization of the **magnetic resonance** in a magneto-resonance spectrometer
AU Borisov, Yu. V.; Ivanov, S. N.; Lobashev, V. M.; Sobolev, Yu. V.
CS Petersburg Nuclear Physics Institute (PNPI), Gatchina, Leningrad district, 188350, Russia
SO Nuclear Instruments & Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors, and Associated Equipment (1995), 357(1), 115-19
CODEN: NIMAER; ISSN: 0168-9002
PB Elsevier
DT Journal
LA English
CC 77-7 (Magnetic Phenomena)
AB A method of fast stabilization of the **magnetic resonance** in a **magnetic resonance** spectrometer was developed and tested. The source of the oscillatory field is the synthesizer which frequency follows variations of the average magnetic field in spectrometer. To search for the neutron elec. dipole moment in the exptl. setup under unfavorable conditions in the reactor exptl. hall a stability of the **magnetic resonance** was achieved that is equivalent to a magnetic field stability at the level of ≈2.5 + 10-12 T per 6 min in a volume of .apprx.50 L with an **elec. field** of 1.5 MV/m.

N/A TAF 6/1/2004

L47 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1976:569155 HCAPLUS
DN 85:169155
ED Entered STN: 12 May 1984
TI Tensor polarizability of the ground-state hyperfine structure of thallium
AU Gould, Harvey
CS Dep. Phys., Brandeis Univ., Waltham, MA, USA
SO Physical Review A: Atomic, Molecular, and Optical Physics (1976), 14(3), 922-7
CODEN: PLRAAN; ISSN: 1050-2947
DT Journal
LA English
CC 73-3 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB The atomic-beam **magnetic-resonance** technique was used to measure the hyperfine-structure tensor polarizability (quadratic Stark effec) in the 62P1/2 ground state of atomic Tl. **Elec. fields** of up to 460 kV/cm were used to lift the degenercy between the mF = 0 and the mF = ± 1 substrates in the absence of an external magnetic **field**, and **focusing** transitions between these Stark-separated states were observed Measurements were also made between Zeeman-separated substates. The results are aT = -(3.74 ± 0.09) + 10-8 Hz/(V/cm)2, or k = -(5.62 ± 0.14) + 10-8 Hz/(V/cm)2, where δv = kE2 is the Stark shift of the (mF = 0) .dblarw. (mF = -1) flop-in transition.

N/A TAF 6/1/2004

L47 ANSWER 12 OF 13 HCAPLUS
AN 1968:108935 HCAPLUS
DN 68:108935
ED Entered STN: 12 May 1984
TI Test methods used in research on insulating materials
AU Stamm, Hans
CS Tech. Hochsch., Ilmenau, Fed. Rep. Ger.
SO Elektrie (1967), 21(11), 411-13
CODEN: EKTRAO; ISSN: 0013-5399
DT Journal
LA German
CC 71 (Electric Phenomena)
AB Methods for determining fatigue in insulators are surveyed. Reversible and irreversible fatigue are distinguished and their dependence upon mol. and crystal structure is discussed. The usual method for the determination of fatigue is the d.c. charging and discharging as a function of time and temperature The interpretation of the obtained curve is difficult and no prediction about breakdown is possible. A direct relation between structural changes and dielec. consts. has been found for crystals. The relevant structure parameters are dipoles (mobility and orientation) and ions (mobility) and their dependence upon **elec. fields**. The dependence of the absorption spectra on temperature gives information about (1) the mobility and orientation of dipoles and (2) the breaking of chains and/or changes of configuration which are also related to changes of viscosity. Information regarding changes of elec. dipoles is obtained from ir spectra and changes of polarizability from the Raman spectra. In order to obtain a representative description of structure and structural changes, other analyzing methods must be introduced. Preferable are nondestructive methods and the following are considered: microscopic methods for the study of texture, domains due to **elec. fields**, and the followup of quick changes in dielecs. by the Kerr effect with polarized light. Order-disorder phenomena and dislocations can be observed by electron microscopy by using e.g. deflection of the electron beam by magnetic or **elec. fields**. Studies at 100-300° can be informative. The configuration of electron shells of specific atoms, charge and spin ds., and the structure and symmetry of the lattice on an atomic scale can be obtained by neutron diffraction and **magnetic resonance** methods. Structural details of the surface, especially after ion etching, can be observed by emission electron microscopy. The importance of the preceding methods is their information about stacking faults, which influence strongly the elec. properties of insulators. The orientation of the crystal axes relative to the geometric shape can be determined by diffraction methods, e.g. grazing incidence electrons or x-ray Kikuchi lines. Accurate detns. of lattice consts. can give information about impurities in the lattice. Constituent elements in small surface areas can be determined by the **microprobe** technique. By thermogravimetric measurements the actual aging of insulators could be studied by short time tests.

N/A TAF 6/1/2004

L47 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1962:447154 HCAPLUS
DN 57:47154
OREF 57:9372h-i,9373a-b
ED Entered STN: 22 Apr 2001
TI Radiospectroscopy: a new branch of modem physics
AU Pekarek, Ludek
SO Pokroky Mat. Fys. Astron. (1959), 4, 42-53;162-79
DT Journal
LA Unavailable
CC 10 (Spectra and Some Other Optical Properties)
AB Radiospectroscopy deals with absorption in the mm. and cm. range, and is divided into high-frequency spectra of gases and **magnetic resonance** spectra of solids and liquids. A high-frequency spectrograph is described. Spectra of NH3, SCSe, and HCN are shown. The absorption lines are attributed to mol. rotation and bending. The spectral lines, which are very narrow at low temps. and pressures, are widened at room temperature and atmospheric pressure. Two types of atomic clocks, both using the 23,870.11Mc. line of NH3, but one using a klystron source with its frequency regulated by the absorption by NH3 mols., the other using excited NH3 mols. themselves (separated from those in the ground state by **focusing** in an inhomogeneous **elec. field**) as sources. A region of overlap of microwave and infrared spectroscopy (wavelengths 0.7-1 mm.) is discussed; the former is more accurate. The nature of electron paramagnetic resonance and its phys. mechanism is explained. Applications in determining the structure of solid crystals, measuring magnetic fields, and following chemical reactions involving organic radicals are briefly outlined. A similar discussion is given of **nuclear magnetic resonance**, with emphasis on the very sharp peaks observed, and applications in accurate measurement of magnetic fields, and for their stabilization. Chemical fine structure and its use in chemical analysis is mentioned.

NA TAF 6/1/2004

L54 ANSWER 8 OF 14 HCAPLUS
AN 2000:778333 HCAPLUS
ED Entered STN: 07 Nov 2000
TI Triaxial magnetic field gradient system for microcoil magnetic resonance imaging
AU Seeber, D. A.; Hoftiezer, J. H.; Daniel, W. B.; Rutgers, M. A.; Pennington, C. H.
CS Department of Physics, The Ohio State University, Columbus, OH, 43210, USA
SO Review of Scientific Instruments (2000), 71(11), 4263-4272
CODEN: RSINAK; ISSN: 0034-6748
PB American Institute of Physics
DT Journal
LA English
AB There is a great advantage in signal to noise ratio (S/N) that can be obtained in **NMR** (**NMR**) expts. on very small samples (having spatial dimensions .apprx.100 μm or less) if one employs **NMR** **"micro"** receiver **coils**, "microcoils," which are of similarly small dimensions. The gains in S/N could enable magnetic resonance imaging (MRI) microscopy with spatial resolution of .apprx.1-2 μm, much better than currently available. Such MRI microscopy however requires very strong (>10 T/m), rapidly switchable triaxial magnetic field gradients. Here, we report the design and construction of such a triaxial gradient system, producing gradients substantially greater than 15 T/m in all three directions, x, y, and z (and as high as 50 T/m for the x direction). The gradients are switchable within time .apprx.10 μs and adequately uniform (within 5% over a volume of [600μm3] for microcoil MRI of small samples.).

N/A TAF 6/1/2004

L54 ANSWER 9 OF 14 HCAPLUS

AN 2000:598842 HCAPLUS

DN 133:260236

ED Entered STN: 29 Aug 2000

TI Fabrication of **NMR**-microsensors for nanoliter sample volumes

AU Dechow, J.; Forchel, A.; Lanz, T.; Haase, A.

CS Technische Physik, Universitat Wurzburg, Wurzburg, D-97074, Germany

SO Microelectronic Engineering (2000), 53(1-4), 517-519
CODEN: MIENEF; ISSN: 0167-9317

PB Elsevier Science B.V.

DT Journal

LA English

CC 76-14 (Electric Phenomena)

AB The fabrication of **micro**-sensors for **NMR** spectroscopy on both glass and GaAs is presented. Planar **coils** with inner diameter from 50 µm to 400 µm including a coplanar wave-guide leading to the bonding pads were combined with a chamber for liquid samples of 200-500 µm diameter on the backside of the substrate. The microcoil served as a receiver in a 1H-**NMR** experiment at 11T (500 MHz). In initial expts., the spectrum of 60 nl-vols. of pure silicone-oil were detected by the microcoil.

NA TAF 6/1/2004

L54 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:45466 HCAPLUS
DN 132:200809
ED Entered STN: 19 Jan 2000
TI Development and characterization of an **NMR** microsensor for nanoliter sample volumes
AU Dechow, Joern; Forchel, Alfred W. B.; Lanz, Titus; Haase, Axel
CS Tech. Phys., Univ. Wuerzburg, Wuerzburg, Germany
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3857(Chemical Microsensors and Applications II), 98-103
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB The fabrication and performance of a **micro**-sensor for **NMR**- spectroscopy of nanoliter-sample vols. is presented. On both glass and GaAs-substrate, planar **coils** with inner diameter at 50-400 μm including a coplanar wave-guide leading to the bonding pads were fabricated. A chamber for the liquid samples of 200-500 μm diameter was etched isotropically on the backside of the substrate, located under the coil. In initial expts., the spectrum of a 20-50 nL-vols. of pure Si-oil is analyzed in a 1H-**NMR** experiment in a 11T spectrometer (500 MHz). The microcoil serves as a receiver, while the RF-power was transmitted by a macroscopic coil perpendicular to the receiver coil. The authors observe characteristic lines from the Si-oil spectrum which clearly indicates the high sensitivity of the microcoil. Addnl. signal from different materials in the experiment are suppressed by gradient fields and an adequate design of the sensor.

NA THF 6/1/2004

L54 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:585088 HCAPLUS
DN 131:306163
ED Entered STN: 20 Sep 1999
TI High-Resolution **NMR** Spectroscopy of Sample Volumes from 1 nL to 10 μL
AU Lacey, Michael E.; Subramanian, Raju; Olson, Dean L.; Webb, Andrew G.; Sweedler, Jonathan V.
CS Department of Chemistry Department of Electrical and Computer Engineering and the Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA
SO Chemical Reviews (Washington, D. C.) (1999), 99(10), 3133-3152
CODEN: CHREAY; ISSN: 0009-2665
PB American Chemical Society
DT Journal; General Review
LA English
CC 77-0 (Magnetic Phenomena)
Section cross-reference(s): 80
AB A review with 143 refs. Through the fabrication of nanoliter-volume **NMR** probes and their coupling to micro-separation strategies, mass-limited analytes in complex matrixes are becoming viable samples for **NMR** anal. Recent demonstrations of online HPLC-**NMR**-MS have combined one of the most widely used separation methods with two of the most information-rich techniques of chemical characterization. The extension of this double hyphenated method to the capillary scale will enable rapid, chemical rich screening of mass-limited samples with enhanced mass sensitivity. While the increased sensitivity of reduced-diameter radio frequency (RF) probes provides a widely applicable benefit for **NMR** spectroscopy,, microcoils offer several addnl. advantages which have not been fully explored. As one example,the diminutive spatial dimensions of microcoil probes enable their use in low-homogeneity high-field magnets. Microcoils can also be applied to solid-state **NMR** and the use of reduced-diameter RF probes for micro-imaging and **NMR** spectroscopic characterization of cellular samples has only begun to receive attention. Numerous areas in the biol. sciences will undoubtedly benefit from improved **NMR** spectroscopy of small vols. in the coming decade.

NA TAF 6/1/2004

Already of Record by Applicant's IDS

L70 ANSWER 1 OF 3 ANABSTR COPYRIGHT 2004 RSC on STN
AN 58(2):F86 ANABSTR
TI Online **NMR** detection of amino-acids and peptides in microbore LC.
AU Wu, N.; Webb, A.; **Peck, T. L.**; Sweedler, J. V. (Beckman Inst. Adv. Sci. and Technol., Univ. Illinois, Urbana, IL 61801, USA)
SO Anal. Chem. (1995) 67(18), 3101-3107
CODEN: ANCHAM ISSN: 0003-2700
DT Journal
LA English
AB A model was developed to predict signal-to-noise ratios in flow systems as a function of flow rate, sample volume, microcil size and **NMR** acquisition parameters. The model predicts that a reduction of detector volume from 16 µl to 50 nl would decrease the signal-to-noise ratio by 2. This was tested by the analysis of three amino-acids and two peptides on a column (15 cm + 1 mm i.d.) of C18 (5 µm). The column was in the bore of a magnet and connected to a microcil (14-17 turns of varnished 42-gauge Cu wire on a capillary [355 µm o.d., 250 µm i.d.]). Elution (10-50 µl/min) was with deuterated acetonitrile/2% TFA in D2O (13:47). Scan number was 64, 128 or 256, requiring 9, 18 or 36 s with a pulse repetition rate of 0.03 or 0.06 s. These conditions allowed good **NMR** spectra to be obtained from 1 µg of analyte in the 50 nl cell described.

NA TAF 6/1/2004

L71 ANSWER 2 OF 9 ANABSTR

AN 62(11):F10171 ANABSTR

TI A **microcoil** **NMR** probe for coupling **microscale** HPLC with on-line **NMR** spectroscopy.

AU Subramanian, R.; Kelley, W. P.; Floyd, P. D.; Tan, Z. J.; Webb, A. G.; Sweedler, J. V. (jsweedle@uiuc.edu, Dept. Chem., Beckman Inst. Advanced Sci. and Technol., Univ. Illinois, Urbana, IL 61801, USA)

SO Anal. Chem. (1999) 71(23), 5335-5339
CODEN: ANCHAM ISSN: 0003-2700

DT Journal

LA English

AB An HPLC **NMR** system is presented that integrates a commercial **microbore** HPLC system using a 0.5 mm column with a 500 MHz proton **NMR** spectrometer using a customer **NMR** probe with an observe volume of 1.1 .**mu**.l and a coil fill factor of 68%. Careful attention to capillary connections and **NMR** flow cell design allows on-line **NMR** detection with no significant loss in separation efficiency when compared with a UV chromatogram. HPLC **NMR** is performed on mixtures of amino acids and small peptides with analyte injection amounts as small as 750 ng; the separations are accomplished in less than 10 min and individual **NMR** spectra are acquired with 12 s time resolution. Stopped-flow **NMR** is achieved by diversion of the chromatographic flow after observation of the beginning of the analyte band within the **NMR** flow cell. Isolation of the compound of interest within the **NMR** detection cell allows **multidimensional** experiments to be performed. A stopped-flow COSY spectrum of the peptide Phe-Ala is acquired in 3.5 h with an injected amount of 5 .**mu**.g.

NA TAF 6/1/2004

L71 ANSWER 4 OF 9 ANABSTR

AN 61(1):F32 ANABSTR

TI Investigation of the calcium content in joint cartilage: is it connected with (early arthrotic) changes in cartilage structure?

AU Reinert, T.; Butz, T.; Flagmeyer, R.-H.; Jankuhn, S.; Vogt, J.; Gruender, W.; Kanowski, M.; Wagner, M.; Werner, A.; Grambole, D.; Herrmann, F. (reinert@physik.uni-leipzig.de, Fac. Phys. and Geol., Univ. Leipzig, 04103 Leipzig, Germany)

SO Nucl. Instrum. Methods Phys. Res., Sect. B (1998) B136-B138, 936-940
CODEN: NIMBEU ISSN: 0168-583X
(Presented at the Thirteenth International Conference on Ion Beam Analysis, held in Lisbon, Portugal, 27 Jul-1 Aug 1997)

DT Journal

LA English

AB Cylinders (diameter 1.8 cm) of porcine femoral cartilage and bone were examined by **NMR** imaging, and a cylinder (diameter 3 mm) extending from the articular surface to the bone was punched from those that showed marked **multilaminar** structure. The cylinder was sectioned transversely (200 .**mu**.m) to isolate tissue at particular distances from the bone towards the articular surface, and the sections were dried by centrifugation and mounted on Al for PIXE. The sections were bombarded with 1.7 MeV protons, and the X-rays were detected with an Si(Li) detector at 141.2° to the proton beam (back-scattered protons detected with a PIPS detector at 170° to the beam). For better lateral resolution, sections (200 .**mu**.m) perpendicular to the articular surface were also cut to correspond to the **NMR** images, and the dried and mounted sections were bombarded with a 3 MeV proton **micro-probe** beam focused to 20 . **mu**.m in the scanning direction (fast-scanning mode) perpendicular to the articular surface, the X-rays being detected with an Si(Li) detector at 120° to the proton beam. Attempts to correlate the Ca concentrations with the **NMR** images were not immediately successful.

NA TAF 6/1/2004

L71 ANSWER 5 OF 9 ANABSTR
AN 60(12):C39 ANABSTR
TI Design of solenoidal **microcoils** for high-resolution carbon-13 **NMR** spectroscopy.
AU Subramanian, R.; Webb, A. G. (Dept. Electrical and Computer Eng. and Beckman Inst. Adv. Sci. and Technol., Univ. Illinois at Urbana-Champaign, Urbana, IL 61801, USA)
SO Anal. Chem. (1998) 70(13), 2454-2458
CODEN: ANCHAM ISSN: 0003-2700
DT Journal
LA English
AB Two **microcoil** detection probes (circuit diagrams presented) suitable for smaller-sized samples than the mg amounts required hitherto have been developed to improve detection limits in high-resolution natural-abundance 13C **NMR** at 11.7 T. Both probes have a coil-filling factor of 69%. The direct detection probe incorporates 13C observe, 2H lock and 1H decouple channels and has an observe volume of 1 . **mu**.l. A linewidth of 1.3 Hz was achieved, and the detection limits for sucrose (natural abundance) and (3-13C)-L-alanine (99%) were 52 and 4.2 nmol with acquisition times of 90 min and <30 s, respectively. The inverse detection probe incorporates 1H observe and 13C decouple channels and has an observe volume of 550 nl. The detection limit for sucrose from a 1D 13C-decoupled heteronuclear **multiple**-quantum coherence spectrum was 4.5 nmol with an acquisition time of 14 min.

NA TAI? 6/1/2004

L71 ANSWER 6 OF 9 ANABSTR COPYRIGHT 2004 RSC on STN
AN 60(6):H222 ANABSTR
TI Liquid chromatography coupled to mass spectrometry and nuclear magnetic resonance spectroscopy for the screening of plant constituents.
AU Wolfender, J.-L.; Rodriguez, S.; Hostettmann, K. (Inst. Pharmacognosie et Phytochim., Univ. Lausanne, 1015 Lausanne, Switzerland)
SO J. Chromatogr., A (1998) 794(1-2), 299-316
CODEN: JCRAEY ISSN: 0021-9673
DT Journal
LA English
AB Coupling methods of HPLC with diode-array UV, single and tandem MS and **NMR** are assessed for the phytochemical screening of crude plant extracts. Compounds considered include xanthones, their O-glycosides and aglycones, triterpene glycosides (saponins) and polyphenols. For HPLC, a column (15 cm + 3.9 mm i.d.) of Nova-Pak C18 (4 .**mu**.m) was used with a similarly packed guard column. For MS thermospray for electrospray interfaces were used and/or modes of continuous-flow FAB MS or tandem or **multiple**-cycle MS. For **NMR** a Unity Innova 500 MHz instrument with Varian 1H(13C) pulse **field**-gradient indirect-detection **microflow** LC-**NMR** probe (60-. **mu**.l flow cell, 3 mm o.d.) was used. A range of chromatograms and mass spectrograms derived from analyses of Gentianaceae and Leguminosae specimens are presented and results are discussed. Use of the diverse coupling techniques can eliminate the need for time-consuming analyte isolation procedures.

N/A TAF 6/1/2004

L75 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:13756 HCAPLUS
DN 128:56837
ED Entered STN: 10 Jan 1998
TI Sample delivery system used in chemical analysis methods which employs pressurized gas for sample conveyance
IN **Haner, Ronald L.**; Duff, David W.; Kellogg, Christopher C.
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AB A sample delivery system for a flow-through **NMR** anal. is provided, which uses pressurized gas as a means for conveying a sample into and out of an **NMR** spectrometer. Two sources of gas pressure, a forward pressure and back pressure, oppose the sample within the tubing of the sample delivery system and the tubing of the flow-through system which are operatively coupled together. Conveyance of the sample in any **direction** within the tubing is achieved by adjusting the pressure differential. Precise positioning of the sample in the magnetic field center and complete removal of the sample from the **NMR** spectrometer when anal. is complete are achieved by using a signal processor which receives signals from the **NMR** detector or other detectors positioned along the length of the tubing. These signals provide an indication of the position of the sample in the tubing. The signal processor uses this information to adjust the forward and back pressure, thereby achieving the desired positioning of the sample.

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